FOR PUBLICATION

UNITED STATES COURT OF APPEALS FOR THE NINTH CIRCUIT

SAN LUIS OBISPO MOTHERS FOR PEACE; SANTA LUCIA CHAPTER OF THE SIERRA CLUB; PEG PINARD, *Petitioners,* PACIFIC GAS AND ELECTRIC COMPANY, *Intervenor,* v. NUCLEAR REGULATORY COMMISSION; UNITED STATES OF AMERICA, *Respondents.*	No. 03-74628 NRC No. CLI-03-01; CLI-02-23 OPINION

On Petition for Review of an Order of the Nuclear Regulatory Commission

Argued and Submitted
October 17, 2005—San Francisco, California

Filed June 2, 2006

Before: Stephen Reinhardt and Sidney R. Thomas, Circuit Judges, and Jane A. Restani,* Chief Judge, United States Court of International Trade

Opinion by Judge Thomas

*The Honorable Jane A. Restani, Chief Judge, United States Court of International Trade, sitting by designation.

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OPINION

THOMAS, Circuit Judge:

This case presents the question, *inter alia*, as to whether the likely environmental consequences of a potential terrorist

attack on a nuclear facility must be considered in an environmental review required under the National Environmental Policy Act. The United States Nuclear Regulatory Commission ("NRC") contends that the possibility of a terrorist attack on a nuclear facility is so remote and speculative that the potential consequences of such an attack need not be considered at all in such a review. The San Luis Obispo Mothers for Peace and other groups disagree and petition for review of the NRC's approval of a proposed Interim Spent Fuel Storage Installation. We grant the petition in part and deny it in part.

I

The NRC is an independent federal agency established by the Energy Reorganization Act of 1974 to regulate the civilian use of nuclear materials. Intervenor Pacific Gas and Electric Company ("PG&E") filed an application with the NRC under 10 C.F.R. Part 72 for a license to construct and operate an Interim Spent Fuel Storage Installation ("Storage Installation" or "ISFSI") at PG&E's Diablo Canyon Power Plant ("Diablo Canyon") in San Luis Obispo, California. The NRC granted the license. The question presented by this petition for review is whether, in doing so, the NRC complied with federal statutes including the National Environmental Policy Act of 1969 ("NEPA"), 42 U.S.C. §§ 4321-4437, the Atomic Energy Act of 1954 ("AEA"), 42 U.S.C. §§ 2011-2297g, and the Administrative Procedure Act ("APA"), 5 U.S.C. §§ 551-706.

NEPA establishes a "national policy [to] encourage productive and enjoyable harmony between man and his environment," and was intended to reduce or eliminate environmental damage and to promote "the understanding of the ecological systems and natural resources important to" the United States. *Dept. of Transp. v. Pub. Citizen*, 541 U.S. 752, 756 (2004) (quoting 42 U.S.C. § 4321). The Supreme Court has identified NEPA's "twin aims" as "plac[ing] upon an agency the obligation to consider every significant aspect of the environmental impact of a proposed action[, and] ensur[ing] that the agency

will inform the public that it has indeed considered environmental concerns in its decisionmaking process." *Baltimore Gas & Elec. Co. v. Natural Res. Def. Counsel, Inc.*, 462 U.S. 87, 97 (1983).

Rather than mandating particular results, NEPA imposes on federal agencies procedural requirements that force consideration of the environmental consequences of agency actions. *Pub. Citizen*, 541 U.S. at 756. At NEPA's core is the requirement that federal agencies prepare an environmental impact statement ("EIS"), or:

> include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on—(i) the environmental impact of the proposed action, (ii) any adverse environmental effects which cannot be avoided should the proposal be implemented, (iii) alternatives to the proposed action, (iv) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and (v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

Id. at 757 (quoting 42 U.S.C. § 4332(2)(C)).

As an alternative to the EIS, an agency may prepare a more limited environmental assessment ("EA") concluding in a "Finding of No Significant Impact" ("FONSI"), briefly presenting the reasons why the action will not have a significant impact on the human environment. *Id.* at 757-58 (citing 40 C.F.R. §§ 1501.4(e), 1508.13). If, however, the EA does not lead to the conclusion that a FONSI is warranted, the agency remains obligated to prepare an EIS. *Id.* at 757.

While NEPA requires the NRC to consider environmental effects of its decisions, the AEA is primarily concerned with setting minimum safety standards for the licensing and operation of nuclear facilities. The NRC does not contest that the two statutes impose independent obligations, so that compliance with the AEA does not excuse the agency from its NEPA obligations. The AEA lays out the process for consideration of the public health and safety aspects of nuclear power plant licensing, and requires the NRC to determine whether the licensing and operation of a proposed facility is "in accord with the common defense and security and will provide adequate protection to the health and safety of the public." 42 U.S.C. § 2232(a).

The NRC is not, however, required to make this determination without assistance; federal law provides a framework for hearings on material issues that interested persons raise by specific and timely petition. 42 U.S.C. § 2239(a); 10 C.F.R. §§ 2.308-.348; 5 U.S.C. §§ 551-706. The initial hearing is held before a three-person Atomic Safety and Licensing Board ("Licensing Board"). 10 C.F.R. § 2.321. The Licensing Board's findings and decision constitute the agency's initial determination, although a party may file a petition for review with the Commission within 15 days of the Licensing Board's decision. 10 C.F.R. § 2.341. If the petition is granted, the Commission specifies the issues to be reviewed and the parties to the review proceedings, 10 C.F.R. § 2.341(c)(1), and renders a final decision. 10 C.F.R. § 2.344. A party may then petition this court for review of the Commission's final decision. 28 U.S.C. § 2344.

II

With this general statutory background, we turn to the facts underlying the petition for review. On December 21, 2001, PG&E applied to the NRC pursuant to 10 C.F.R. Part 72 for a license to construct and operate a Storage Installation at Diablo Canyon. The Storage Installation would permit the

necessary and on-site storage of spent fuel, the byproduct of the two nuclear reactors at that site. PG&E expects to fill its existing spent fuel storage capacity at Diablo Canyon sometime this year. Therefore, unless additional spent fuel storage capacity is created, the Diablo Canyon reactors cannot continue to function beyond 2006.

PG&E proposes to build a dry cask storage facility. The basic unit of the storage system is the Multi-Purpose Canister ("Canister"), a stainless steel cylinder that is filled with radioactive waste materials and welded shut. The Canisters are loaded into concrete storage overpacks that are designed to permit passive cooling via the circulation of air. The storage casks, or the filled Canisters loaded into overpacks, are then placed on one of seven concrete pads. The Storage Installation would house a total of 140 storage casks, 2 more than the 138 projected to be required for storage of spent fuel generated at Diablo Canyon through 2025.

On April 22, 2002, the NRC published a Notice of Opportunity for Hearing. Under the regulatory scheme, interested parties could then request a hearing or petition for leave to intervene. 10 C.F.R. § 2.309(a). A written hearing request, which must contain the contentions the party wants litigated at the hearing, will be granted if the petitioner has standing, and has posed at least one admissible contention.[1] *Id.*

On July 19, 2002, the San Luis Obispo Mothers for Peace, a non-profit corporation concerned with Diablo Canyon's

[1]In order to be admissible, a contention must: be set forth with particularity, 10 C.F.R. § 2.309(f)(1); provide a specific statement of the disputed issue of law or fact, 10 C.F.R. § 2.309(f)(1)(i); provide the basis for the contention, 10 C.F.R. § 2.309(f)(1)(ii); demonstrate that the issue is within the scope of the proceeding, 10 C.F.R. § 2.309(f)(1)(iii); demonstrate that the issue is material to the findings the NRC must make, 10 C.F.R. § 2.309(f)(1)(iv); provide supporting references and expert opinions, 10 C.F.R. § 2.309(f)(1)(v); and provide sufficient information to show the existence of a genuine issue of law or fact, 10 C.F.R. § 2.309(f)(1)(vi).

local impact, the Sierra Club, a non-profit corporation concerned with national environmental policy, and Peg Pinard, an individual citizen, (collectively "Petitioners") submitted a hearing request and a petition to intervene, asserting contentions for admission.

In Licensing Board Proceeding LBP-02-23, 56 NRC 413 ("LBP 02-23"), the Atomic Safety and Licensing Board addressed the admissibility of the July 19 petition's five Technical and three Environmental Contentions.[2] One Technical Contention, TC-1, dealing with the state of PG&E's finances, was deemed admissible; the acceptance of at least one contention meant that the petition was granted. Although the Licensing Board deemed two Environmental Contentions, EC-1, dealing with the failure to address environmental impacts of terrorist or other acts of malice or insanity, and EC-3, dealing with the failure to evaluate environmental impacts of transportation of radioactive materials[3] inadmissible, the Licensing Board nonetheless referred the final ruling as to the admissibility of these two contentions to the NRC, "in light of the

[2]Technical Contention Number One ("TC-1") alleged Inadequate Seismic Analysis. TC-2 alleged PG&E's Financial Qualifications Are Not Demonstrated. TC-3 alleged PG&E May Not Apply for a License for a Third Party. TC-4 alleged Failure to Establish Financial Relationships Between Parties Involved in Construction and Operation of Installation. TC-5 alleged Failure to Provide Sufficient Description of Construction and Operation Costs. Environmental Contention Number One ("EC-1") alleged Failure to Address Environmental Impacts of Destructive Acts of Malice or Insanity. EC-2 alleged Failure to Fully Describe Purposes of Proposed Action or to Evaluate All Reasonably Associated Environmental Impacts and Alternatives. EC-3 alleged Failure to Evaluate Environmental Impacts of Transportation.

[3]Because the Storage Installation is not a permanent repository, this contention assumes the eventual transport of the materials stored there to a permanent site. Among the materials submitted to support the contention were some dealing with possible terrorist or other malicious attacks on the spent fuel while in transit. The ruling on the contention was "referr[ed] . . . to the Commission to the extent terrorism and sabotage matters are proffered in support of its admission." 56 NRC at 453.

Commission's ongoing 'top to bottom' review of the agency's safeguards and physical security programs." 56 NRC at 448.

In a memorandum and order, CLI-03-1, 57 NRC 1 ("CLI 03-01"), the NRC accepted the Licensing Board's referral of its decision to reject the environmental contentions related to terrorism. Although the Commission affirmed the Licensing Board's rejection of the contentions, it based its decision on a different rationale. The NRC relied on four prior decisions in which it held that the NEPA does not require a terrorism review.[4] These decisions, most particularly *Private Fuel Storage*, CLI-02-25, 56 NRC 340 (2002), outlined four reasons for this holding: (1) the possibility of terrorist attack is too far removed from the natural or expected consequences of agency action to require study under NEPA; (2) because the risk of a terrorist attack cannot be determined, the analysis is likely to be meaningless; (3) NEPA does not require a "worst-case" analysis; and (4) NEPA's public process is not an appropriate forum for sensitive security issues. The NRC concluded:

> Our decision today rests entirely on our understanding of NEPA and of what means are best suited to dealing with terrorism. Nonetheless, our conclusion comports with the practical realities of spent fuel storage and the congressional policy to encourage utilities to provide for spent fuel storage at reactor sites pending construction of a permanent repository. Storage of spent fuel at commercial reactor sites offers no unusual technological challenges. Indeed, it has been occurring at Diablo Canyon for many

[4]Those cases include: *Private Fuel Storage, L.L.C.*, CLI-02-25, 56 NRC 340 (2002) (Storage Installation); *Duke Cogema Stone & Webster* (Mixed Oxide Fuel Fabrication Facility), CLI-02-24, 56 NRC 335 (2002); *Dominion Nuclear Connecticut, Inc.* (Nuclear Power Station), CLI-02-27, 56 NRC 367 (2002); and *Duke Energy Corp.* (Nuclear Power Station), CLI-02-26, 56 NRC 358 (2002). All four cases were decided on December 18, 2002.

> years and will continue whether or not we license the proposed Installation.

57 NRC at 7.

In September of 2002, prior to the NRC's decision on the first petition, Petitioners submitted a second petition, this time requesting suspension of the Storage Installation licensing proceeding pending comprehensive review of the adequacy of Diablo Canyon's design and operation measures for protection against terrorist attack and other acts of malice or insanity. Unlike the July 19 petition, this one addressed security measures for the entire Diablo Canyon complex, not merely the Storage Installation. Petitioners explained that 10 C.F.R. § 2.335, which prohibits challenges to any NRC rule or regulation in an adjudicatory proceeding involving initial or renewal licensing, prevented the raising of contentions contesting the adequacy of NRC safety requirements protecting against terrorist or other malicious attacks on the entire complex in the July 19 Petition. Petitioners also stated that 10 C.F.R. § 72.32 prevented them from raising emergency planning contentions in the earlier petition. Thus, Petitioners insisted that the second petition "d[id] not constitute a request for rulemaking, nor . . . for enforcement action," and instead defined it, without reference to any particular hearing-granting provision of the regulations, as "a request for actions that are necessary to ensure that any licensing decision made by the Commission with respect to the proposed Diablo Canyon Installation complies with the Commission's statutory obligations under the Atomic Energy Act."

In a memorandum and order, CLI-02-23, 56 NRC 230 ("CLI 02-23"), the NRC denied the September 2002 petition. Because the petition did not, according to the NRC, "fit comfortably in any specific category, [the Commission] treat[ed] it as a general motion brought under the procedural requirements of 10 C.F.R. § 2.730."[5] In rejecting the petition, the

[5]Since renumbered as 10 C.F.R. § 2.323, this regulation provides, simply, for "motions".

Commission reasoned that by not suspending operating licenses at installations and power plants following the September 11, 2001 terrorist attacks, it had demonstrated its implicit conclusion that the continued operation of these facilities neither posed an imminent risk to the public health, nor was inimical to the common defense. Further, the Commission concluded that because it had already initiated a thorough review of its safeguards and physical security program, there was no reason to suspend the Diablo Canyon licensing proceeding to address the terrorism-related concerns raised by the Petitioners. It stated that "[t]here certainly is no reason to believe that any danger to public health and safety would result from mere continuation of this adjudicatory proceeding," given that the proceeding was in its initial stages, that construction was not scheduled to begin for several years, and that the Petitioners would be able to comment on any changes in the rules resulting from the Commission's ongoing review of terrorism-related matters if and when they were to occur.

In a memorandum and order, CLI-03-12, 58 NRC 185 (2003) ("CLI 03-02"), the NRC denied the petitions for agency review of the Licensing Board's decisions that "cumulatively, rejected challenges to [the PG&E] Installation application." This denial thus became a final order, reviewable by this court on petition for review. 28 U.S.C. § 2344.

In October of 2003, the Spent Fuel Project Office of the NRC's Office of Material Safety and Safeguards released its Environmental Assessment Related to the Construction and Operation of the Diablo Canyon Independent Spent Fuel Storage Installation. The 26-page document contains the NRC's conclusion "that the construction, operation, and decommissioning of the Diablo Canyon Installation will not result in significant impact to the environment," and therefore that "an [EIS] is not warranted for the proposed action, and pursuant to 10 C.F.R. [§] 51.31, a Finding of No Significant Impact is appropriate."

The EA is not devoid of discussion of terrorist attacks. Indeed, the document contains the Commission's response to a comment submitted by the California Energy Commission in response to an earlier draft that "there is no discussion in the EA of the potential destruction of the casks or blockage of air inlet ducts as the result of sabotage or a terrorist attack . . . [nor is there] a description of how decisions are being made regarding the configuration, design and spacing of the casks, the use of berms, and the location of the ISFSI to minimize the vulnerability of the ISFSI to potential attack." The NRC responded:

> In several recent cases, . . . the Commission has determined that an NRC environmental review is not the appropriate forum for the consideration of terrorist acts. The NRC staff considers the security of spent fuel as part of its safety review of each application for an ISFSI license. In addition to reviewing an ISFSI application against the requirements of 10 CFR Part 72, the NRC staff evaluates the proposed security plans and facility design features to determine whether the requirements in 10 CFR Part 73, "Physical Protection of Plants and Materials," are met. The details of specific security measures for each facility are Safeguards Information, and as such, can not be released to the public.
>
> The NRC has also initiated several actions to further ensure the safety of spent fuel in storage. Additional security measures have been put in place at nuclear facilities, including ISFSIs currently storing spent fuel. These measures include increased security patrols, augmented security forces and weapons, additional security posts, heightened coordination with law enforcement and military authorities, and additional limitations on vehicular access. Also, as part of its comprehensive review of its security program, the NRC is conducting several technical

> studies to assess potential vulnerabilities of spent fuel storage facilities to a spectrum of terrorist acts. The results of these studies will be used to determine if revisions to the current NRC security requirements are warranted.

Petitioners argue that, in denying their petitions, the NRC violated the AEA, the APA, and NEPA. Although we reject the AEA and APA claims, we agree with Petitioners that the agency has failed to comply with NEPA. We have jurisdiction over those final orders of the NRC made reviewable by 42 U.S.C. § 2239, which includes final orders entered in licensing proceedings, under 28 U.S.C. § 2342(4).

III

We turn first to Petitioners' AEA argument. Specifically, Petitioners argue that the NRC violated its regulations implementing the AEA, as well as the AEA's hearing provisions, when it denied Petitioners a hearing on whether NEPA required consideration of the environmental impact of a terrorist attack on the Storage Installation; they also argue that the NRC violated the AEA's hearing provisions in denying Petitioners a hearing on post-September 11th security measures for the entire Diablo Canyon complex. Both of these challenges fail.

A

[1] The NRC did not violate the AEA or its implementing regulations when it failed to explain its rejection of Petitioners' contentions by addressing each of their arguments. Nothing in the regulations or the AEA requires the NRC to provide such an explanation.

Section 189(a) of the AEA grants public hearing rights "upon the request of any person whose interest may be affected" by an NRC licensing proceeding. 42 U.S.C. § 2239. The

NRC public hearing regulations, at 10 C.F.R. § 2.309, "promulgated pursuant to the AEC's[6] power to make, promulgate, issue, rescind, and amend such rules and regulations as may be necessary to carry out the purposes of" the AEA, 12 U.S.C. § 2201(p), specify the procedures required of both petitioners and the NRC in making and deciding hearing petitions.

[2] Petitioners correctly observe that the NRC, in its decision, did not discuss whether Petitioners satisfied the regulatory standard. They are mistaken, however, in their unsupported contention that this omission amounts to the agency's failure to follow its own regulations and thus is "reversible error." The regulations simply do not require the NRC to explain its decisions in any particular manner. Although the NRC regulations are specific and demanding in what they require of petitioners, they demand far less of the NRC in responding to a petition: the regulations require only a timely "decision." *See* 10 C.F.R. § 2.714(i) ("Decision on request/petition. The presiding officer shall, within 45 days after the filing of answers and replies . . . issue a decision on each request for hearing/petition to intervene."). Because Petitioners do not claim that the NRC violated this requirement, we must reject this challenge.

B

[3] The NRC's denial of a hearing on whether NEPA requires consideration of the environmental effects of a terrorist attack on the Storage Installation did not violate the AEA's hearing provisions.

[4] Petitioners contend that the NRC relied on an improper ground in denying their request for a hearing on whether

[6]In 1974, Congress eliminated the Atomic Energy Commission ("AEC"). Regulatory functions went to the NRC, and promotional functions to the Energy Research and Development Administration. *See* Energy Reorganization Act of 1974, 42 U.S.C. § 5814.

NEPA requires the Commission to consider the environmental impacts of terrorism — namely, the ground that it had determined in earlier decisions that NEPA imposes no such obligation. Thus, Petitioners do not challenge the substantive validity or coherence of those earlier opinions in making their AEA claim, but rather the reliance upon a prior determination of the merits in order to reject a petition presenting the same issues. As such, *Sierra Club v. NRC*, 862 F.2d 222 (9th Cir. 1988), on which Petitioners rely, does not apply. In that case, the NRC rejected the petitioners' contentions as lacking in reasonable specificity, and yet went on to analyze the merits of those supposedly unacceptable contentions. *Id.* at 228. Here, however, where the agency is rejecting the contentions as contrary to a prior decision, the "merits" and the reason for the inadmissibility of the contention collapse. Put differently, the NRC did not reach the merits of the petition as much as it assessed the issues raised against issues resolved by prior decisions. We hold that in doing so, the Commission complied fully with the AEA. To hold otherwise would unduly restrict the agency's evaluation of hearing petitions, by requiring it to grant a hearing on issues it has already resolved whenever a petitioner claims to have new evidence. We can find, and Petitioners point to, nothing in the AEA that would require this result.

C

[5] The NRC's denial of a hearing on security measures for Diablo Canyon as a whole also did not violate the AEA. Petitioners argue that the AEA requires the NRC to grant petitioners a hearing on all issues of material fact, including the security of the entire Diablo Canyon complex. Petitioners therefore conclude, citing *Union of Concerned Scientists v. NRC*, 735 F.2d 1437 (D.C. Cir. 1984), that the NRC violated the AEA when it denied a hearing on that issue.

Petitioners' argument misreads *Union of Concerned Scientists*, in which the D.C. Circuit held only that the agency can-

not by rule presumptively eliminate a material issue from consideration in a hearing petition. *Union of Concerned Scientists* requires the agency to consider a petition; it does not require that the agency grant it.

The NRC in CLI 02-23 did not deny that security requirements for the entire complex might need to be upgraded, but rather maintained that a licensing proceeding hearing (and one regarding an installation, not the entire complex) was not the correct forum in which to address the issue. The Commission directed Petitioners to participate in a rulemaking or to raise their concerns in a hearing then pending before the Licensing Board. Petitioners contend that these alternative fora are illusory, and that rejection of their petition amounted to the denial of any opportunity to participate in the consideration of post-9/11 security measures for the Diablo Canyon complex.

Petitioners argue "[i]f the NRC were going to resolve Petitioners' concerns that grossly inadequate security made the Diablo Canyon facility vulnerable to terrorist attacks generically, through a rulemaking, such a rulemaking would have been initiated as a result of the 'comprehensive security review' undertaken by the NRC." Thus, Petitioners argue that it would have been futile to submit a rulemaking petition. This argument must fail, as Petitioners did not use the available procedures for initiating a rulemaking. Petitioners cannot complain that NRC failed to institute a rulemaking they never requested.

[6] Given that rulemaking may have been an avenue for Petitioners' participation, had they chosen to pursue it, their argument that they had no forum in which to raise their contentions loses its force. However, even were Petitioners correct in their assertion that they were unfairly denied the opportunity to participate in a rulemaking proceeding, the argument that the Licensing Board hearing was similarly illusory would fail. In fact, Petitioners were attempting to use the present Storage Installation licensing proceeding as a means

of launching a much broader challenge to the Diablo Canyon complex. The NRC correctly observes that a petition alleging that existing NRC regulations are "grossly inadequate to protect against terrorist attack, and therefore must be supplemented by additional requirements" cannot in fact be raised before the Licensing Board, which cannot hear challenges to NRC rules. The limited scope of licensing proceedings does not, however, amount to the arbitrary denial of a forum, as Petitioners claim. While Petitioners could have raised site-specific issues "relating to the 'common defense and security' " that were not controlled by existing rules or regulations to the Licensing Board, they are not entitled to expand those proceedings to include the entire complex, and issues already covered by agency rules.

D

In short, the NRC did not violate the AEA in denying the petitions for a hearing. Neither the AEA nor its implementing regulations required the NRC to grant Petitioners a hearing on whether NEPA required a consideration of the environmental impact of a terrorist attack on the Storage Installation or the security measures adopted for the entire Diablo Canyon complex.

IV

[7] The NRC's reliance on its own prior opinions in its decision in this case does not violate the APA's notice and comment provisions. Petitioners argue that the decisions in CLI 03-01 and *PFS* amount to the announcement "of a general policy of refusing to consider the environmental impacts of terrorist attacks in Environmental Impact Statements." Petitioners rely on *Mada-Luna v. Fitzpatrick*, 813 F.2d 1006, 1014 (9th Cir. 1987) to claim that this policy depends on factual determinations not found subsequent to an evidentiary proceeding, and constitutes a "binding substantive norm," the promulgation of which, without a public hearing, violates the

APA notice and comment provisions contained in 5 U.S.C. §§ 553(b), (c).[7] The flaw in Petitioners' argument is the mistaken assertion that the NRC's decisions were factual and not legal. If the NRC's conclusion that terrorism need not be examined under NEPA were factual, then Petitioners would be correct that its determination would have to comply with APA rulemaking requirements, including notice and comment, or else the agency would have to permit petitioners to challenge it in every proceeding where it was disputed.

[8] That NEPA does not require consideration of the environmental impacts of terrorism is a legal, and not a factual, conclusion. *Cf. Greenpeace Action v. Franklin*, 14 F.3d 1324, 1331 (9th Cir. 1993) (reasoning that a challenge to the adequacy of an EA turned on factual, not legal, principles where both NEPA's applicability and the requirements it imposed were uncontested); *see also Alaska Wilderness Recreation & Tourism Ass'n v. Morrison*, 67 F.3d 723, 727 (9th Cir. 1995) (noting that although "challenges to agency actions which raise predominantly legal, rather than technical questions, are rare," the court was there required to address "just such a challenge"). Petitioners' analysis is therefore inapposite. The agency has the discretion to use adjudication to establish a binding legal norm. *See Sec. & Exch. Comm'n v. Chenery*, 332 U.S. 194, 199-203 (1947) ("[T]he choice made between proceeding by general rule or by individual, ad hoc litigation, is one that lies primarily in the informed discretion of the administrative agency."). We therefore agree with the NRC's characterization in its brief to this court: having come to the legal conclusion that NEPA does not require consideration of the environmental consequences of terrorist attacks, "[w]hen

[7]U.S.C. § 553(b) states that "[g]eneral notice of proposed rulemaking shall be published in the Federal Register," and outlines the requirements that such notice must meet. 5 U.S.C. § 553(c) states that after such notice has been given, "the agency shall give interested persons an opportunity to participate in the rulemaking through submission of written data, views, or arguments with or without opportunity for oral presentation."

petitioners in this case presented a proposed contention seeking an EIS that analyzed the impacts of possible terrorist acts at the proposed Diablo Canyon Installation, the NRC reasonably concluded that this request was sufficiently similar to the request in *PFS* to justify the application of that decision here."

V

Although we hold that the agency did not violate the APA when it relied on the prior resolution of a legal issue through adjudication, we come to a different conclusion as to that determination's compliance with NEPA. Because the issue whether NEPA requires consideration of the environmental impacts of a terrorist attack is primarily a legal one, we review the NRC's determination that it does not for reasonableness. *See Alaska Wilderness Recreation & Tourism Ass'n*, 67 F.3d at 727 (reviewing predominately legal issue for reasonableness because "it makes sense to distinguish the strong level of deference we accord an agency in deciding factual or technical matters from that to be accorded in disputes involving predominately legal questions"); *Ka Makani'o Kohala Ohana, Inc. v. Water Supply*, 295 F.3d 955, 959 n.3 (9th Cir. 2002) ("Because this case involved primarily legal issues . . . based on undisputed historical facts, we conclude that the 'reasonableness' standard should apply to this case.").

Here, the NRC decided categorically that NEPA does not require consideration of the environmental effects of potential terrorist attacks. In making this determination, the NRC relied on *PFS*, where it "consider[ed] in some detail the legal question whether NEPA requires an inquiry into the threat of terrorism at nuclear facilities." 56 NRC 340, 343 (2002). In that case, intervenor State of Utah filed a contention claiming that the September 11 terrorist attacks "had materially changed the circumstances under which the Board had rejected previously proffered terrorism contentions by showing that a terrorist attack is both more likely and potentially more dangerous than previously thought." *Id.* at 345. The NRC concluded that

even following the September 11th attacks, NEPA did not impose such a requirement, reasoning:

> In our view, an EIS is not an appropriate format to address the challenges of terrorism. The purpose of an EIS is to inform the decisionmaking authority and the public of a broad range of environmental impacts that will result, with a fair degree of likelihood, from a proposed project, rather than to speculate about 'worst-case' scenarios and how to prevent them.

Id. at 347.

The NRC determined that four grounds "cut[ ] against using the NEPA framework" to consider the environmental effects of a terrorist attack: (1) the possibility of a terrorist attack is far too removed from the natural or expected consequences of agency action; (2) because the risk of a terrorist attack cannot be determined, the analysis is likely to be meaningless; (3) NEPA does not require a "worst-case" analysis; and (4) NEPA's public process is not an appropriate forum for sensitive security issues. *Id.* at 348. We review each of these four grounds for reasonableness, and conclude that these grounds, either individually or collectively, do not support the NRC's categorical refusal to consider the environmental effects of a terrorist attack.

A

[9] The Commission relied first on finding that the possibility of a terrorist attack is too far removed from the natural or expected consequences of agency action. *Id.* at 347. Section 102 of NEPA requires federal agencies to prepare "a detailed statement . . . on the environmental impact" of any proposed major federal action "significantly affecting the quality of the human environment." 42 U.S.C. § 4332(1)(C)(i). The question thus becomes whether a given action "significantly affects" the environment.

The NRC claims that the appropriate analysis of Section 102 is that employed by the Supreme Court in *Metropolitan Edison Co. v. People Against Nuclear Power*, 460 U.S. 766, 773 (1983). In *Metropolitan Edison*, the Court noted that "[t]o determine whether Section 102 requires consideration of a particular effect, we must look to the relationship between that effect and the change in the physical environment caused by the major federal action at issue," looking for "a reasonably close causal relationship . . . like the familiar doctrine of proximate cause from tort law." 460 U.S. at 774. The Commission claims that its conclusion that the environmental impacts of a possible terrorist attack on an NRC-licensed facility is beyond a "reasonably close causal relationship" was a reasonable application of this "proximate cause" analogy.

The problem with the agency's argument, however, is that *Metropolitan Edison* and its proximate cause analogy are inapplicable here. In *Metropolitan Edison*, the petitioners argued that NEPA required the NRC to consider the potential risk of psychological damage upon reopening the Three Mile Island nuclear facilities to those in the vicinity. Noting that NEPA is an environmental statute, the Supreme Court held that the essential analysis must focus on the "closeness of the relationship between the change in the environment and the 'effect' at issue." 460 U.S. at 772.

The appropriate analysis is instead that developed by this court in *NoGwen Alliance v. Aldridge*, 855 F.2d 1380 (9th Cir. 1988). In *NoGwen*, the plaintiffs argued that NEPA required the Air Force to consider the threat of nuclear war in the implementation of the Ground Wave Emergency Network ("GWEN"). We held "that the nexus between construction of GWEN and nuclear war is too attenuated to require discussion of the environmental impacts of nuclear war in an [EA] or [EIS]." 855 F.2d at 1386.

[10] The events at issue here, as well as in *Metropolitan Edison* and *NoGwen*, form a chain of three events: (1) a major

federal action; (2) a change in the physical environment; and (3) an effect. *Metropolitan Edison* was concerned with the relationship between events 2 and 3 (the change in the physical environment, or increased risk of accident resulting from the renewed operation of a nuclear reactor, and the effect, or the decline in the psychological health of the human population). The Court in *Metropolitan Edison* explicitly distinguished the case where the disputed relationship is between events 1 and 2: "we emphasize that in this case we are considering effects caused by the risk of accident. The situation where an agency is asked to consider effects that will occur if a risk is realized, for example, if an accident occurs . . . is an entirely different case." *Id.* at 775 n.9. In *NoGwen*, we followed the Court's admonition and, in addressing the relationship between events 1 and 2, we held that the *Metropolitan Edison* analysis did not apply "because it discusse[d] a different type of causation than that at issue in this case . . . [which] require[d] us to examine the relationship between the agency action and a potential impact on the environment." *Id.* at 1386. *NoGWEN* relied on our decision in *Warm Springs Dam Task Force v. Gribble*, 621 F.2d 1017, 1026 (9th Cir. 1980), which held that "an impact statement need not discuss remote and highly speculative consequences." Applying that standard to the plaintiffs' claims that the military GWEN system's installation would "increase the probability of nuclear war," and "that GWEN would be a primary target in a nuclear war," we held both propositions to be "remote and highly speculative," and, therefore, NEPA did not require their consideration.

[11] In the present case, as in *NoGwen*, the disputed relationship is between events 1 and 2 (the federal act, or the licensing of the Storage Installation, and the change in the physical environment, or the terrorist attack). The appropriate inquiry is therefore whether such attacks are so "remote and highly speculative" that NEPA's mandate does not include consideration of their potential environmental effects.

[12] The NRC responds by simply declaring without support that, as a matter of law, "the possibility of a terrorist attack . . . is speculative and simply too far removed from the natural or expected consequences of agency action to require a study under NEPA." 56 NRC at 349. In doing so, the NRC failed to address Petitioners' factual contentions that licensing the Storage Installation would lead to or increase the risk of a terrorist attack because (1) the presence of the Storage Installation would increase the probability of a terrorist attack on the Diablo Canyon nuclear facility, and (2) the Storage Installation itself would be a primary target for a terrorist attack. We conclude that it was unreasonable for the NRC to categorically dismiss the possibility of terrorist attack on the Storage Installation and on the entire Diablo Canyon facility as too "remote and highly speculative" to warrant consideration under NEPA.

[13] In so concluding, we also recognize that the NRC's position that terrorist attacks are "remote and highly speculative," as a matter of law, is inconsistent with the government's efforts and expenditures to combat this type of terrorist attack against nuclear facilities. In the PFS opinion, the NRC emphasized the agency's own post-September 11th efforts against the threat of terrorism:

> At the outset, however, we stress our determination, in the wake of the horrific September 11th terrorist attacks, to strengthen security at facilities we regulate. We currently are engaged in a comprehensive review of our security regulations and programs, acting under our AEA-rooted duty to protect "public health and safety" and the "common defense and security." We are reexamining, and in may cases have already improved, security and safeguards matters such as guard force size, physical security exercises, clearance requirements and background investigations for key employees, and fitness-for-duty requirements. More broadly, we are rethinking

> the NRC's threat assessment framework and design basis threat. We also are reviewing our own infrastructure, resources, and communications.
>
> Our comprehensive review may also yield permanent rule or policy changes that will apply to the proposed PFS facility and to other NRC-related facilities. The review process is ongoing and cumulative. It has already resulted in a number of security-related actions to address terrorism threats at both active and defunct nuclear facilities.

56 NRC at 343. Among these actions is the establishment of an Office of Nuclear Security and Incident Response, "responsible for immediate operational security and safeguards issues as well as for long-term policy development[,] work[ing] closely with law enforcement agencies and the Office of Homeland Security[,] . . . coordinat[ing] the NRC's ongoing comprehensive security review." *Id.* at 344-45.

We find it difficult to reconcile the Commission's conclusion that, as a matter of law, the possibility of a terrorist attack on a nuclear facility is "remote and speculative," with its stated efforts to undertake a "top to bottom" security review against this same threat. Under the NRC's own formulation of the rule of reasonableness, it is required to make determinations that are consistent with its policy statements and procedures. Here, it appears as though the NRC is attempting, as a matter of policy, to insist on its preparedness and the seriousness with which it is responding to the post-September 11th terrorist threat, while concluding, as a matter of law, that all terrorist threats are "remote and highly speculative" for NEPA purposes.[8]

[8]The view that a terrorist attack is too speculative to be a required part of NEPA review would seem to be inconsistent with the NRC's pre-9/11 security procedures. Since 1977, the NRC has required licensed plants to have a security plan that is designed to protect against a "design basis

[14] In sum, in considering the policy goals of NEPA and the rule of reasonableness that governs its application, the possibility of terrorist attack is not so "remote and highly speculative" as to be beyond NEPA's requirements.

B

[15] The NRC's reliance upon the second *PFS* factor, that the Risk of a Terrorist Attack Cannot be Adequately Determined, 56 NRC at 350, is also not reasonable. First, the NRC's dismissal of the risk of terrorist attacks as "unquantifiable" misses the point. The numeric probability of a specific attack is not required in order to assess likely modes of attack, weapons, and vulnerabilities of a facility, and the possible impact of each of these on the physical environment, including the assessment of various release scenarios. Indeed, this is precisely what the NRC already analyzes in different contexts. It is therefore possible to conduct a low probability-high consequence analysis without quantifying the precise probability of risk. The NRC itself has recognized that consideration of uncertain risks may take a form other than quantitative "probabilistic" assessment. In its "Proposed Policy Statement on Severe Accidents and Related Views on Nuclear Reactor Regulation," 48 Fed.Reg. 16,014 (1983), the Commission stated that:

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threat" for radiological sabotage. *See* General Accounting Office, *Nuclear Regulatory Commission: Oversight of Security at Commercial Nuclear Power Plants Needs to be Strengthened*, GAO-030752 (2003) at 6. "The design basis threat characterizes the elements of a postulated attack, including the number of attackers, their training, and the weapons and tactics they are capable of using." *Id.*

Thus, the NRC—even before the terrorist attacks of 9/11—did not consider such attacks too "remote and speculative" to be considered in agency planning. To the contrary, the agency has long required analysis of means and methods of hypothetical attacks against specific facilities, with the goal of establishing effective counter-measures.

> In addressing potential accident initiators (including earthquakes, sabotage, and multiple human errors) where empirical data are limited and *residual uncertainty is large*, the use of conceptual modeling and scenario assumptions in Safety Analysis Reports will be helpful. They should be based on *the best qualified judgments of experts*, either in the form of subjective numerical probability estimates *or qualitative assessments of initiating events and casual [sic] linkages in accident sequences.*

48 Fed.Reg. at 16,020 (emphasis added).

[16] No provision of NEPA, or any other authority cited by the Commission, allows the NRC to eliminate a possible environmental consequence from analysis by labeling the risk as "unquantifiable." *See Limerick Ecology Action, Inc. v. NRC*, 869 F.2d 719, 754 (3rd Cir. 1989) (J. Scirica, dissenting) (finding no "statutory provision, no NRC regulation or policy statement, and no case law that permits the NRC to ignore any risk found to be unquantifiable"). If the risk of a terrorist attack is not insignificant, then NEPA obligates the NRC to take a "hard look" at the environmental consequences of that risk. The NRC's actions in other contexts reveal that the agency does not view the risk of terrorist attacks to be insignificant. Precise quantification is therefore beside the point.

Even if we accept the agency's argument, the agency fails to adequately show that the risk of a terrorist act is unquantifiable. The agency merely offers the following analysis as to the quantifiability of a potential terrorist attack:

> The horrors of September 11 notwithstanding, it remains true that the likelihood of a terrorist attack being directed at a particular nuclear facility is not quantifiable. Any attempt at quantification or even qualitative assessment would be highly speculative. In fact, the likelihood of attack cannot be ascertained

> with confidence by any state-of-the-art methodology. That being the case, we have no means to assess, usefully, the risks of terrorism at the PFS facility.

56 NRC at 350. The agency nonetheless has simultaneously shown the ability to conduct a "top to bottom" terrorism review. This leaves the Commission in the tenuous position of insisting on the impossibility of a meaningful, i.e. quantifiable, assessment of terrorist attacks, while claiming to have undertaken precisely such an assessment in other contexts. Further, as we have noted, the NRC has required site-specific analysis of such threats, involving numerous recognized scenarios.[9]

[17] Thus, we conclude that precise quantification of a risk is not necessary to trigger NEPA's requirements, and even if it were, the NRC has not established that the risk of a terrorist attack is unquantifiable.

C

The NRC's third ground, that it is not required to conduct a "worst-case" analysis, is a non sequitur. Although it is a true statement of the law, the agency errs in equating an assessment of the environmental impact of terrorist attack with a demand for a worst-case analysis.

The Council on Environmental Quality ("CEQ") regulations, 40 C.F.R. §§ 1500.1 - 1518.4, promulgated with the "purpose [of] tell[ing] federal agencies what they must do to comply with [NEPA] procedures and achieve the goals of

[9]The NRC's assertion that a risk of terrorism cannot be quantified is also belied by the very existence of the Department of Homeland Security Advisory System, which provides a general assessment of the risk of terrorist attacks. *See, e.g.*, World Market Research Centre, Global Terrorism Index 2003/4 (offering a probabilistic risk assessment of terrorist activities over a 12-month period).

[NEPA]," have been interpreted by the Supreme Court as "entitled to substantial deference." *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 355 (citing *Andrus v. Sierra Club*, 442 U.S. 347, 358 (1979)). These regulations mandated worst-case analyses until 1986, when CEQ replaced the former 40 C.F.R. § 1502.22, requiring an agency, when relevant information was either unavailable or too costly to obtain, to include in the EIS a "worst-case analysis and an indication of the probability or improbability of its occurrence," with the new and current version of the regulation, which requires an agency to instead deal with uncertainties by including within the EIS "a summary of existing credible scientific evidence which is relevant to evaluating the reasonable foreseeable significant adverse impacts on the human environment, and . . . the agency's evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community." 40 C.F.R. §§ 1502.22(b)(3), (4). The current requirement applies to those events with potentially catastrophic consequences "even if their probability of occurrence is low, provided that the analysis of impacts is supported by credible scientific evidence, is not based on pure conjecture, and is within the rule of reason." 40 C.F.R. § 1502.22 (b)(4). The Supreme Court held in *Robertson* that the amendment of the regulations had nullified the worst-case analysis requirement. 490 U.S. at 355; *Edwardsen v. U.S. Dep't of Interior*, 268 F.3d 781, 785 (9th Cir. 2001).

The Commission is therefore correct when it argues that NEPA does not require a worst-case analysis. It is mistaken, however, when it claims that "Petitioners' request for an analysis of [the environmental effects of] a successful terrorist attack at the Diablo Canyon ISFSI approximates a request for a 'worst-case' analysis that has long since been discarded by the CEQ regulations . . . and discredited by the Federal courts." According to the NRC, "[m]aking the various assumptions required by [P]etitioners' scenario requires the NRC to venture into the realm of 'pure conjecture.' " We disagree.

[18] An indication of what CEQ envisioned when it imposed the worst-case analysis requirement can be gleaned from a 1981 CEQ memorandum, Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations, reprinted at 46 FR 18026-01 (March 23, 1981). CEQ answered one of those questions, "[w]hat is the purpose of a worst-case analysis? How is it formulated and what is the scope of the analysis?" with the following:

> The purpose of the analysis is to . . . cause agencies to consider th[ ]e potential consequences [of agency decisions] when acting on the basis of scientific uncertainties or gaps in available information. The analysis is formulated on the basis of available information, using reasonable projections of the worst possible consequences of a proposed action.
>
> For example, if there are scientific uncertainty and gaps in the available information concerning the numbers of juvenile fish that would be entrained in a cooling water facility, the responsible agency must disclose and consider the possibility of the loss of the commercial or sport fishery. In addition to an analysis of a low probability/catastrophic impact event, the worst-case analysis should also include a spectrum of events of higher probability but less drastic impact.

46 FR 18026, 18032. While it is true that the agency is not required to consider consequences that are "speculative,"[10] the

[10]Because we disagree with the agency's interpretation of worst-case analysis, we do not reach the agency's characterization of the possibility of terrorist attack as "speculative." We note, however, that this characterization stands out as contrary to the vigilant stance that Americans are encouraged to take by the Department of Homeland Security. *See* www.dhs.gov/dhspublic/display?theme=29 (urging that "[a]ll Americans should continue to be vigilant" and noting that "[t]he country remains at an elevated risk . . . for terrorist attack.")

NRC's argument wrongly labels a terrorist attack the worst-case scenario because of the low or indeterminate probability of such an attack. The CEQ memo, by including as worst-case scenarios events of both higher and lower probability, reveals that worst-case analysis is not defined solely by the low probability of the occurrence of the events analyzed, but also by the range of outcomes of those events. *See also Greater Yellowstone Coalition v. Flowers*, 321 F.3d 1250, 1260 (10th Cir. 2003) (citing a witness's testimony that the loss of bald eagle nesting sites was both "likely" and "a worst-case scenario"). Petitioners do not seek to require the NRC to analyze the most extreme (i.e., the "worst") possible environmental impacts of a terrorist attack. Instead, they seek an analysis of the range of environmental impacts likely to result in the event of a terrorist attack on the Storage Installation. We reject the Commission's characterization of this request as a demand for a worst-case analysis.

D

[19] The NRC's reliance on the fourth *PFS* factor, that it cannot comply with its NEPA mandate because of security risks, is also unreasonable. There is no support for the use of security concerns as an excuse from NEPA's requirements. While it is true, as the agency claims, that NEPA's requirements are not absolute, and are to be implemented consistent with other programs and requirements, this has never been interpreted by the Supreme Court as excusing NEPA's application to a particularly sensitive issue. *See Weinberger v. Catholic Action of Hawaii*, 454 U.S. 139 (1981) (holding that the Navy was required to perform a NEPA review and to factor its results into decisionmaking even where the sensitivity of the information involved meant that the NEPA results could not be publicized or adjudicated). *Weinberger* can support only the proposition that security considerations may permit or require modification of some of the NEPA procedures, not the Commission's argument that sensitive security issues result in some kind of NEPA waiver.

The application of NEPA's requirements, under the rule of reason relied on by the NRC, is to be considered in light of the two purposes of the statute: first, ensuring that the agency will have and will consider detailed information concerning significant environmental impacts; and, second, ensuring that the public can both contribute to that body of information, and can access the information that is made public. *Pub. Citizen*, 541 U.S. at 768. To the extent that, as the NRC argues, certain information cannot be publicized, as in *Weinberger*, other statutory purposes continue to mandate NEPA's application. For example, that the public cannot access the resulting information does not explain the NRC's determination to prevent the public from *contributing* information to the decisionmaking process. The NRC simply does not explain its unwillingness to hear and consider the information that Petitioners seek to contribute to the process, which would fulfill both the information-gathering and the public participation functions of NEPA. These arguments explain why a *Weinberger*-style limited proceeding might be appropriate, but cannot support the NRC's conclusion that NEPA does not apply. As we stated in *NoGWEN*: "There is no 'national defense' exception to NEPA . . . 'The Navy, just like any federal agency, must carry out its NEPA mandate to the fullest extent possible and this mandate includes weighing the environmental costs of the [project] even though the project has serious security implications.' " 855 F.2d at 1384 (quoting *Concerned About Trident v. Rumsfeld*, 555 F.2d 817, 823 (D.C. Cir. 1977)).

E

[20] In sum, none of the four factors upon which the NRC relies to eschew consideration of the environmental effects of a terrorist attack satisfies the standard of reasonableness. We must therefore grant the petition in part and remand for the agency to fulfill its responsibilities under NEPA.

[21] Our identification of the inadequacies in the agency's NEPA analysis should not be construed as constraining the

NRC's consideration of the merits on remand, or circumscribing the procedures that the NRC must employ in conducting its analysis. There remain open to the agency a wide variety of actions it may take on remand, consistent with its statutory and regulatory requirements. We do not prejudge those alternatives. Nor do we prejudge the merits of the inquiry. We hold only that the NRC's stated reasons for categorically refusing to consider the possibility of terrorist attacks cannot withstand appellate review based on the record before us.

We are also mindful that the issues raised by the petition may involve questions of national security, requiring sensitive treatment on remand. However, the NRC has dealt with our nation's most sensitive nuclear secrets for many decades, and is well-suited to analyze the questions raised by the petition in an appropriate manner consistent with national security.

VI

We deny the petition as to the claims under the AEA and the APA. However, because we conclude that the NRC's determination that NEPA does not require a consideration of the environmental impact of terrorist attacks does not satisfy reasonableness review, we hold that the EA prepared in reliance on that determination is inadequate and fails to comply with NEPA's mandate. We grant the petition as to that issue and remand for further proceedings consistent with this opinion.

PETITION GRANTED IN PART; DENIED IN PART; REMANDED.